A BIBLIOGRAPHY OF ELECTROFISHING

WITH SUBJECT INDEX

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INTRODUCTION

The literature on electrofishing is extensive, and is scattered throughout many journals, magazines, and government publications in North America, Europe and Asia. The objective of this bibliography is to provide an organized guide to the majority of references available from these various sources.

The bibliography was originally part of a larger project initiated within the Royal Ontario Museum in 1982. Included in the project, was a section comparing the effects of repeated capture by electrofishing and by trap nets on muskellunge (which will be published separately). Also included were proposed guidelines for the construction and operation of electrofishing boats. These guidelines were based on those developed by the United States Fish and Wildlife Service in 1979 and were further enhanced by Gary Spencer of the Canadian Centre for Occupational Health and Safety. These proposed guidelines have since been re-evaluated and are now the responsibility of the Ontario Ministry of Natural Resources (OMNR), Environmental Dynamics Section. The OMNR is presently publishing an electrofishing policy for Ontario's electrofishing systems, which include boats, back pack and shore units. They have also organized an annual workshop to train operators of electrofishing equipment in basic electricity, safety and operating procedures and first aid. Eventually this workshop will become mandatory for users, and the policy proposal will become enforced regulations.

The references in this bibliography include all aspects of electrofishing from equipment design to the practical use of the technique. A special effort has been made to make the bibliography useful to those interested in population studies and management, who

use either the portable electrofishing system or electrofishing boats. Several references concerning the use of electricity for commercial fishing, i.e. electric trawls and seines, have been included and are mainly of European origin. References concerning guidelines on the safety, construction and operation practices of electrofishing gear have been included for the United States and Canada.

This bibliography includes references published from 1950 to 1984. References on electrofishing published before 1950 were excluded as the design and techniques of electrofishing have changed radically over the past three decades. However, a complete list of references prior to 1954 is available (Applegate et al, 1954).

The bibliography is organized into two sections. The first section is arranged alphabetically by author and co-author(s) - where applicable, and chronologically for authors with more than one publication. The second section is organized by subject matter. Under each subject heading, only the authors' names and publishing dates are listed; for the complete citation, reference must be made to the first section. References have been cross-indexed in this section if they contain information relevent to more than one subject. The subject categories are as follows:

BIBLIOGRAPHIES - lists of references concerning various aspects of electrofishing.

COMPARISON OF CAPTURE METHODS - relates the fishing effectiveness of electrofishing with other types of gear. Also includes comparisons between electrofishing systems.

DESIGN AND EQUIPMENT - deals with aspects of designing equipment for a wide variety of water conditions and species. This category is divided into three subsections: 1) General -

concerns commercial fishing equipment as well as accessory equipment for any electrofishing system. 2) Boats - construction and related equipment for electrofishing boats. 3) Portable - various designs of equipment and accessories for back pack electrofishing systems.

EFFECTS ON FISH AND OTHER ANIMALS - field and laboratory studies on the effect of electroshocking on behaviour, physiology, reproduction and mortality of fish. Also includes effects on other aquatic animals.

ELECTRICAL PRINCIPLES - covers effects of water and fish conductivity and different electrical currents on electrofishing.

SAFETY PRECAUTIONS - covers general electroshocking safety practices and the dangers of electric current.

REGULATIONS AND GUIDELINES - includes policies from the United States and Ontario for electrofishing systems.

POPULATION STUDIES - articles on population estimates, distribution, biomass, age- and size-composition and tagging studies of fish captured by electrofishing.

MANAGEMENT - deals with controlling the movement of migratory or impounded fish with electroshock.

TECHNIQUES - covers various procedures and applications for collecting fish with electric shock.

Although considerable effort was made to gather all references concerning electrofishing, there is little doubt that some were unintentionally omitted. Despite this, the bibliography will be a useful tool for those interested in electrofishing.

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